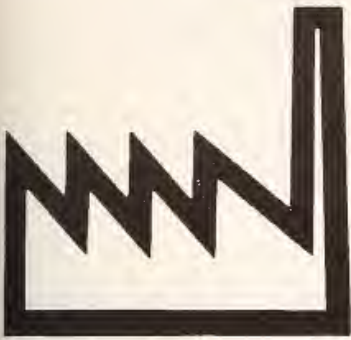


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PRELIMINARY REPORT
INDUSTRY SERIES

1987

Census of Manufactures

MC87-I-24A(P)
Issued August 1989

LOGGING, SAWMILLS, AND PLANING MILLS

Industries 2411, 2421, 2426, and 2429

INTRODUCTION

This report presents preliminary statistics from the 1987 Census of Manufactures for those establishments classified in the industries listed above. These data will be superseded by a more comprehensive final paperbound report. The method of data collection and use of administrative data are discussed in detail in the appendix.

All dollar figures included in this report are at prices current for the year specified and, therefore, unadjusted for changes in price levels. Consequently, when making comparisons to prior years, users should take into consideration the inflation that has occurred.

The definitions of these industries are the same as those used in the 1987 Standard Industrial Classification (SIC) Manual.¹

INDUSTRY 2411, LOGGING

In the 1987 Census of Manufactures, Industry 2411, Logging, had employment of 87.0 thousand. The employment figure was 8 percent above the 80.8 thousand reported in 1982.

The total value of shipments for establishments classified in this industry was \$11.0 billion.

In 1987, establishments in this industry accounted for 95 percent of products considered primary to the industry regardless of the industry in which they were produced (coverage ratio). In 1982, the coverage ratio was also 95. The products primary to this industry appear in table 2 and aggregated to \$10.7 billion in 1987.

The cost of materials and services used by establishments in this industry amounted to \$6.9 billion in 1987. Data on specific materials consumed appear in table 3.

INDUSTRY 2421, SAWMILLS AND PLANING MILLS, GENERAL

In the 1987 Census of Manufactures, Industry 2421, Sawmills and Planing Mills, General, had employment of 146.6 thousand. The employment figure was 11 percent above the 131.9 thousand reported in 1982. Compared with 1986, employment in 1987 increased 4 percent. The 1986 data are based on the Bureau's annual survey of manufactures (ASM), which is a sample survey conducted each year between censuses.

The total value of shipments for establishments classified in this industry was \$17.2 billion.

In 1987, establishments in this industry accounted for 94 percent of products considered primary to the industry regardless of the industry in which they were produced (coverage ratio). In 1982, the coverage ratio was 91. The products primary to this industry appear in table 2 and aggregated to \$16.8 billion in 1987.

The cost of materials and services used by establishments in this industry amounted to \$10.5 billion in 1987. Data on specific materials consumed appear in table 3.

INDUSTRY 2426, HARDWOOD DIMENSION AND FLOORING MILLS

In the 1987 Census of Manufactures, Industry 2426, Hardwood Dimension and Flooring Mills, had employment of 29.8 thousand. The employment figure was 30 percent above the 22.9 thousand reported in 1982. Compared with 1986, employment in 1987 increased 10 percent. The

¹Standard Industrial Classification Manual: 1987. For sale by Superintendent of Documents, U.S. Government Printing Office, Washington, DC 20402. Stock No. 041-001-00314-2.

Address inquiries to Bureau of the Census, Industry Division, Washington, DC 20233, or call **Bernice W. Patterson** (301) 763-2510.

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1986 data are based on the Bureau's annual survey of manufactures (ASM), which is a sample survey conducted each year between censuses.

The total value of shipments for establishments classified in this industry was \$1.7 billion.

In 1987, establishments in this industry accounted for 91 percent of products considered primary to the industry regardless of the industry in which they were produced (coverage ratio). In 1982, the coverage ratio was 92. The products primary to this industry appear in table 2 and aggregated to \$1.6 billion in 1987.

The cost of materials and services used by establishments in this industry amounted to \$865.1 million in 1987. Data on specific materials consumed appear in table 3.

INDUSTRY 2429, SPECIAL PRODUCT SAWMILLS, N.E.C.

In the 1987 Census of Manufactures, Industry 2429, Special Product Sawmills, N.E.C., had employment of 2.2 thousand. The employment figure was 27 percent below the 3.0 thousand reported in 1982. Compared with 1986, employment in 1987 increased 10 percent. The 1986 data are based on the Bureau's annual survey of manufactures (ASM), which is a sample survey conducted each year between censuses.

The total value of shipments for establishments classified in this industry was \$149.1 million.

In 1987, establishments in this industry accounted for 95 percent of products considered primary to the industry regardless of the industry in which they were produced (coverage ratio). In 1982, the coverage ratio was 92. The products primary to this industry appear in table 2 and aggregated to \$144.9 million in 1987.

The cost of materials and services used by establishments in this industry amounted to \$85.3 million in 1987. Data on specific materials consumed appear in table 3.

ABBREVIATIONS AND SYMBOLS

The following abbreviations and symbols are used in the tables in this publication:

-	Represents zero.
(D)	Withheld to avoid disclosing data for individual companies; data are included in higher level totals.
(NA)	Not available.
(NC)	Not comparable.
(S)	Withheld because estimate did not meet publication standards on the basis of either the response rate or a consistency review.
(X)	Not applicable.
(Z)	Less than half the unit shown.
do	Ditto.
n.e.c.	Not elsewhere classified.
n.s.k.	Not specified by kind.
pt.	Part.
r	Revised.
SIC	Standard Industrial Classification.

Other abbreviations, such as lb, gal, yd, doz, bbl, and s tons, are used in the customary sense.

CONTACTS FOR DATA USERS

Subject Area	Contact	Phone
Census/ASM		
Durables	Kenneth Hansen	(301) 763-7304
Nondurables	Michael Zampogna	(301) 763-2510
Current Industrial Reports		
Durables	Malcolm Bernhardt	(301) 763-2518
Nondurables	Thomas Flood	(301) 763-5911
Import/Export Publications	Foreign Trade Division	(301) 763-5140
Industry Analysis and Forecasts	International Trade Administration	(202) 377-4356

Table 1. Historical Statistics for the Industry: 1987 and Earlier Years

[Excludes data for auxiliaries. For meaning of abbreviations and symbols, see introductory text. For explanation of terms, see appendix]

Year ¹	All establishments ³			All employees		Production workers			Value added by manufac- ture ⁴ (million dollars)	Cost of materials (million dollars)	Value of shipments (million dollars)	New capital expen- ditures (million dollars)	End-of- year inventories ⁴ (million dollars)	Ratios	
	Com- panies ² (no.)	Total (no.)	With 20 employ- ees or more (no.)	Number (1,000)	Payroll (million dollars)	Number (1,000)	Hours (millions)	Wages (million dollars)						Special- ization (per- cent)	Cover- age (per- cent)
	INDUSTRY 2411, LOGGING														
1987 Census	(NA)	11 721	818	87.0	1 543.2	73.3	133.6	1 222.5	4 149.0	6 876.1	11 026.5	349.6	606.8	98	95
1986 ASM	(NA)	(NA)	(NA)	72.3	1 250.0	60.6	112.2	1 022.3	2 892.3	5 306.5	8 235.7	341.3	617.2	(NA)	(NA)
1985 ASM	(NA)	(NA)	(NA)	76.3	1 259.5	65.2	116.1	1 033.2	2 944.0	5 524.9	8 518.0	356.0	700.2	(NA)	(NA)
1984 ASM	(NA)	(NA)	(NA)	84.7	1 362.5	72.1	131.5	1 113.9	2 939.3	5 993.2	8 987.9	328.2	741.2	(NA)	(NA)
1983 ASM	(NA)	(NA)	(NA)	83.5	1 310.8	73.0	129.2	1 103.0	2 780.9	5 916.6	8 731.0	237.0	810.6	(NA)	(NA)
1982 Census	11 541	11 658	657	80.8	1 207.9	69.1	121.3	1 003.7	2 501.9	5 630.2	8 274.0	249.0	747.2	96	95
1981 ASM	(NA)	(NA)	(NA)	85.8	1 199.9	74.0	135.5	956.1	2 606.4	5 465.3	8 117.5	380.8	729.9	(NA)	(NA)
1980 ASM	(NA)	(NA)	(NA)	96.5	1 233.0	82.9	149.3	987.1	3 131.1	5 328.9	8 408.1	451.2	833.8	(NA)	(NA)
1979 ASM	(NA)	(NA)	(NA)	90.4	1 146.1	80.4	145.0	948.8	3 157.2	4 522.5	7 599.9	555.9	725.2	(NA)	(NA)
1978 ASM	(NA)	(NA)	(NA)	87.2	1 125.7	76.5	135.5	923.9	2 631.6	4 277.0	6 914.8	431.2	642.4	(NA)	(NA)
1977 Census	15 136	15 469	708	83.3	1 009.0	74.5	127.7	840.1	2 418.7	3 826.7	6 230.1	386.5	555.8	97	94
1976 ASM	(NA)	(NA)	(NA)	71.5	797.7	65.4	109.9	676.7	2 172.9	2 366.6	4 460.8	307.5	388.9	(NA)	(NA)
1975 ASM	(NA)	(NA)	(NA)	67.2	664.1	62.4	100.2	566.2	1 713.1	2 064.1	3 787.1	378.2	319.4	(NA)	(NA)
1974 ASM	(NA)	(NA)	(NA)	75.5	675.2	70.4	120.6	585.9	1 835.9	1 944.9	3 730.0	277.1	281.5	(NA)	(NA)
1973 ASM	(NA)	(NA)	(NA)	85.9	602.8	80.1	139.4	521.8	1 607.8	1 782.3	3 332.8	154.3	261.8	(NA)	(NA)
1972 Census	13 152	13 238	696	80.0	523.9	74.5	129.6	456.1	1 163.4	1 368.7	2 529.5	157.0	195.7	97	89
	INDUSTRY 2421, SAWMILLS AND PLANING MILLS, GENERAL														
1987 Census	(NA)	5 662	1 677	146.6	2 788.0	127.7	274.0	2 274.9	6 709.4	10 503.5	17 177.1	508.9	2 194.2	95	94
1986 ASM	(NA)	(NA)	(NA)	141.1	2 547.3	123.8	247.7	2 088.3	5 774.8	9 247.0	14 953.3	440.6	2 108.7	(NA)	(NA)
1985 ASM	(NA)	(NA)	(NA)	136.3	2 411.6	119.9	238.3	1 958.2	4 665.0	8 334.4	12 973.9	443.8	1 945.3	(NA)	(NA)
1984 ASM	(NA)	(NA)	(NA)	142.7	2 419.9	125.3	245.2	1 981.9	4 765.8	8 369.0	13 118.2	558.4	1 906.2	(NA)	(NA)
1983 ASM	(NA)	(NA)	(NA)	142.8	2 333.6	125.0	244.9	1 925.4	4 619.5	8 184.3	12 663.9	370.2	1 976.9	(NA)	(NA)
1982 Census	5 810	6 316	1 556	131.9	2 020.2	113.9	215.5	1 651.7	3 237.5	6 674.2	10 065.2	408.4	1 734.1	93	91
1981 ASM	(NA)	(NA)	(NA)	161.1	2 297.2	139.6	272.7	1 855.5	4 114.7	7 739.4	11 836.3	619.6	1 862.9	(NA)	(NA)
1980 ASM	(NA)	(NA)	(NA)	175.4	2 344.0	151.8	296.8	1 888.9	4 647.4	7 898.7	12 604.9	758.3	1 893.5	(NA)	(NA)
1979 ASM	(NA)	(NA)	(NA)	185.8	2 435.3	163.5	331.9	2 013.6	5 774.5	8 383.1	13 991.6	734.6	1 934.0	(NA)	(NA)
1978 ASM	(NA)	(NA)	(NA)	173.2	2 135.7	153.3	304.8	1 766.1	5 282.4	7 345.4	12 513.3	651.6	1 588.1	(NA)	(NA)
1977 Census	6 802	7 544	1 827	175.2	1 943.0	155.8	315.6	1 622.7	4 452.8	6 499.2	10 866.7	535.8	1 420.6	92	93
1976 ASM	(NA)	(NA)	(NA)	169.1	1 687.7	150.7	301.6	1 414.7	3 753.7	5 126.4	8 744.2	456.4	1 257.1	(NA)	(NA)
1975 ASM	(NA)	(NA)	(NA)	159.7	1 427.4	142.3	281.2	1 186.0	2 651.8	3 943.8	6 634.8	434.3	1 032.8	(NA)	(NA)
1974 ASM	(NA)	(NA)	(NA)	186.0	1 499.2	166.3	328.5	1 246.6	3 336.1	4 186.9	7 365.2	547.1	1 029.6	(NA)	(NA)
1973 ASM	(NA)	(NA)	(NA)	173.7	1 400.7	155.7	314.4	1 174.0	3 773.7	4 167.2	7 863.4	374.7	881.2	(NA)	(NA)
1972 Census	7 662	8 071	1 717	166.6	1 274.4	149.5	302.2	1 070.0	2 906.8	3 581.3	6 484.5	307.1	752.0	91	94
	INDUSTRY 2426, HARDWOOD DIMENSION AND FLOORING MILLS														
1987 Census	(NA)	732	341	29.8	439.8	26.1	53.1	344.6	852.5	865.1	1 711.0	66.2	268.6	92	91
1986 ASM	(NA)	(NA)	(NA)	27.2	386.1	23.8	48.2	305.6	718.1	793.2	1 503.0	52.7	244.4	(NA)	(NA)
1985 ASM	(NA)	(NA)	(NA)	26.2	347.7	23.2	45.4	276.0	688.3	705.7	1 392.4	36.5	205.8	(NA)	(NA)
1984 ASM	(NA)	(NA)	(NA)	25.7	334.7	22.5	45.0	262.8	649.7	679.1	1 315.2	37.2	221.6	(NA)	(NA)
1983 ASM	(NA)	(NA)	(NA)	23.6	275.2	20.9	40.4	220.8	522.7	553.2	1 053.8	25.0	200.3	(NA)	(NA)
1982 Census	750	789	306	22.9	252.6	20.1	37.8	199.3	445.4	465.6	912.6	24.3	168.3	91	92
1981 ASM	(NA)	(NA)	(NA)	25.4	260.1	21.9	42.2	203.5	454.0	512.2	962.2	19.2	162.9	(NA)	(NA)
1980 ASM	(NA)	(NA)	(NA)	26.4	242.3	22.9	42.2	191.9	428.3	503.3	939.6	29.5	157.2	(NA)	(NA)
1979 ASM	(NA)	(NA)	(NA)	30.4	256.4	26.8	52.2	202.9	487.4	578.4	1 055.8	34.7	183.7	(NA)	(NA)
1978 ASM	(NA)	(NA)	(NA)	31.6	261.5	28.2	54.3	205.6	479.1	581.9	1 052.2	40.1	168.1	(NA)	(NA)
1977 Census	829	890	345	29.1	225.0	25.8	49.8	177.5	412.9	443.1	850.0	35.3	147.4	91	92
1976 ASM	(NA)	(NA)	(NA)	31.3	213.0	28.1	54.7	172.4	354.3	381.9	737.3	22.0	117.7	(NA)	(NA)
1975 ASM ⁶	(NA)	(NA)	(NA)	27.5	172.5	24.3	46.1	137.9	285.8	312.9	601.4	28.4	104.9	(NA)	(NA)
1974 ASM	(NA)	(NA)	(NA)	29.2	180.7	25.9	50.0	148.8	294.1	351.9	645.3	26.0	108.2	(NA)	(NA)
1973 ASM	(NA)	(NA)	(NA)	32.5	188.7	29.4	58.3	156.2	325.2	375.4	693.3	29.3	109.5	(NA)	(NA)
1972 Census	879	933	364	31.5	173.9	28.2	55.9	141.7	272.1	304.4	579.0	16.8	81.7	91	88
	INDUSTRY 2429, SPECIAL PRODUCT SAWMILLS, N.E.C.														
1987 Census	(NA)	229	32	2.2	32.5	1.9	3.2	25.6	60.7	85.3	149.1	3.2	19.6	99	95
1986 ASM ⁶	(NA)	(NA)	(NA)	2.0	26.5	1.7	2.4	21.0	40.8	56.2	97.0	1.3	22.8	(NA)	(NA)
1985 ASM ⁶	(NA)	(NA)	(NA)	2.2	28.8	2.0	2.7	22.1	43.9	70.5	110.4	1.5	25.4	(NA)	(NA)
1984 ASM ⁶	(NA)	(NA)	(NA)	2.7	31.4	2.5	3.6	24.1	48.4	85.9	138.0	1.6	27.3	(NA)	(NA)
1983 ASM ⁶	(NA)	(NA)	(NA)	1.7	27.2	1.5	3.1	24.8	64.9	70.8	138.9	3.6	33.9	(NA)	(NA)
1982 Census	266	298	47	3.0	33.1	2.7	4.0	26.1	65.0	91.5	154.6	2.9	32.6	96	92
1981 ASM ⁶	(NA)	(NA)	(NA)	3.9	55.0	3.4	6.0	35.6	105.8	135.2	257.1	11.2	32.2	(NA)	(NA)
1980 ASM ⁶	(NA)	(NA)	(NA)	5.5	67.6	4.9	8.3	45.0	123.8	166.8	269.2	7.5	57.2	(NA)	(NA)
1979 ASM ⁶	(NA)	(NA)	(NA)	6.6	64.5	5.8	9.4	44.9	164.1	166.5	329.1	12.3	50.0	(NA)	(NA)
1978 ASM ⁶	(NA)	(NA)	(NA)	7.1	64.3	6.4	10.6	49.7	140.9	167.3	296.2	9.5	37.4	(NA)	(NA)
1977 Census	511	566	101	7.0	60.3	6.1	10.4	48.8	109.1	137.6	252.6	13.1	30.8	98	92
1976 ASM ⁶	(NA)	(NA)	(NA)	7.0	46.0	6.2	9.6	37.0	116.6	152.1	270.5	11.9	29.6	(NA)	(NA)
1975 ASM	(NA)	(NA)	(NA)	7.0	41.9	6.1	9.2	33.5	103.5	122.6	226.9	9.4	30.1	(NA)	(NA)
1974 ASM	(NA)	(NA)	(NA)	6.8	47.8	6.1	10.5	39.4	106.4	136.0	241.9	9.5	24.7	(NA)	(NA)
1973 ASM	(NA)	(NA)	(NA)	6.3	42.9	5.8	10.2	36.3	90.0	115.1	202.2	54.5	23.4	(NA)	(NA)
1972 Census	397	447	86	6.4	40.0	5.8	9.7	33.7	80.4	98.2	180.8	5.7	20.4	98	96

Note: Establishments of single companies with up to 20 employees (cutoff varied by industry) were excluded from the mail portion of the census. Data for these establishments (and a small number of larger establishments whose reports were not received at the time the data were tabulated) were estimated based on administrative-record information from other agencies in conjunction with industry averages. These establishments accounted for the following percent of total value of shipments: SIC 2411, 37%; SIC 2421, 15%; SIC 2426, 13%; and SIC 2429, 28%.

¹In annual survey of manufactures (ASM) years, data are estimates based on a representative sample of establishments canvassed annually and may differ from results of a complete canvass of all establishments. ASM publication shows percentage standard errors. Unless otherwise noted, for data prior to 1972, see 1972 Census of Manufactures, vol. II, table 1a of the industry chapter.

²For the census, a company is defined as a business organization consisting of one establishment or more under common ownership or control.

³Includes establishments with payroll at any time during the year.

⁴Beginning with the 1982 Census of Manufactures, all respondents were requested to report their inventories at (the lower of) cost or market prior to adjustment to LIFO cost. This is a change from prior Censuses and annual surveys of manufactures in which respondents were permitted to value their inventories using any generally accepted accounting method. Consequently, inventories and value added by manufacture are not comparable to prior-year data.

⁵Estimates for new capital expenditures have associated standard error of 15 percent or more and may be of limited reliability. Estimates for other data items are of acceptable reliability.

⁶Data either have associated standard errors exceeding 15 percent or are not consistent with other census series and related data; thus, these estimates may be of limited reliability.

Table 2. Product and Product Classes—Quantity and Value of Shipments by All Producers: 1987 and 1982

[Includes quantity and value of products of this industry produced by (1) establishments classified in this industry (primary) and (2) establishments classified in other industries (secondary). Transfers of products of this industry from one establishment of a company to another establishment of the same company (interplant transfers) are also included. For further explanation, see Value of Shipments in appendix. For meaning of abbreviations and symbols, see introductory text]

1987 product code	Product	1987			1982		
		Number of companies with shipments of \$100,000 or more	Product shipments ¹		Number of companies with shipments of \$100,000 or more	Product shipments ¹	
			Quantity ²	Value (million dollars)		Quantity ²	Value (million dollars)
2411- --	LOGGING						
	Total	(NA)	(X)	10 682.5	(NA)	(X)	7 448.4
24111 --	Softwood logs, bolts, and timber	(NA)	(X)	3 453.9	(NA)	(X)	3 083.2
24111 09	Redwood mil ft log scale.....	(NA)		*341.7 94.7	(NA)	(³)	(³)
24111 11	Southern yellow pine	(NA)	**4	908.4 706.0	273	**4 157.6	611.2
24111 13	Ponderosa pine	(NA)		247.2 287.9	76	*973.8	203.8
24111 15	Spruce	(NA)		240.1 137.5	78	(S)	163.3
24111 17	Douglas fir	(NA)	*5	010.4 1 218.3	227	4 944.1	1 218.4
24111 21	Hemlock	(NA)	2	749.9 484.8	105	2 036.4	440.4
24111 23	Western red cedar	(NA)		*410.3 96.1	47	*334.4	83.0
24111 27	Other softwood log species, n.e.c.	(NA)	**1	700.7 232.8	(NA)	³ (S)	³ 290.5
24111 00	Softwood logs, bolts, and timber, n.s.k.	(NA)	(X)	195.8	(NA)	(X)	72.7
24112 --	Hardwood logs, bolts, and timber	(NA)	(X)	308.6	(NA)	(X)	257.5
24112 13	Maple mil ft log scale.....	(NA)	(S)	28.9	45	(S)	14.3
24112 18	Oak: Red group mil ft log scale.....	(NA)	(S)	55.6	98	(S)	44.1
24112 19	White group	(NA)	(S)	29.4	73	(S)	41.2
24112 23	Beech	(NA)	(S)	3.1	(NA)	(S)	117.4
24112 28	Other hardwood log species, n.e.c.	(NA)	(S)	140.1	(NA)	(S)	40.5
24112 00	Hardwood logs, bolts, and timber, n.s.k.	(NA)	(X)	51.5	(NA)	(X)	
24113 --	Pulpwood	(NA)	(X)	738.4			
24113 11	Softwood 1,000 standard cords.....	(NA)	**8	690.4 522.1	293	(S)	624.6
24113 13	Hardwood	(NA)	(S)	184.1			
24113 00	Pulpwood, n.s.k.	(NA)	(X)	32.2			
24114 --	Other roundwood products	(NA)	(X)	326.1	(NA)	(X)	327.2
24114 08	Wood poles, piles, and posts, untreated, not more than 15 ft in length:	(NA)	(X)	16.2			
24114 10	Softwood	(NA)	(X)	4.1	37	(X)	26.0
24114 12	Hardwood	(NA)	(X)	64.1			
24114 14	Wood poles, piles, and posts, untreated, more than 15 ft in length:	(NA)	(X)	27.5	50	(X)	55.2
24114 15	Softwood	(NA)	(X)				
24114 16	Fuelwood cut in the field 1,000 standard cords.....	(NA)	(S)	4.1	5	(S)	4.3
24114 18	Wood chips produced in the field: Softwood:	(NA)					
24114 16	Short tons 1,000 s tons.....	(NA)	*1	269.5 26.4	(⁴)	(⁴)	(⁴)
24114 18	Standard units (one standard unit, 200 cu ft of gravity packed chips, one standard cord) 1,000 standard units.....	(NA)		*516.8 30.2	(⁴)	(⁴)	(⁴)
24114 22	Hardwood: Short tons 1,000 s tons.....	(NA)	(S)	52.1	473	⁴ (S)	495.3
24114 24	Standard units (one standard unit, 200 cu ft of gravity packed chips, one standard cord) 1,000 standard units.....	(NA)		*418.3 18.0	443	⁴ 1 365.2	482.8
24114 29	Fence pickets, palings, and rails round and split	(NA)	(X)	8.2			
24114 33	Other roundwood products and wood in the rough, n.e.c. (including brierwood, stumps, sticks, and burls):	(NA)	(X)	8.2	29	(X)	46.8
24114 35	Softwood	(NA)	(X)	22.2			
24114 00	Hardwood	(NA)	(X)	44.8	(NA)	(X)	16.9
24119 --	Receipts for contract logging:	(NA)					
24119 00	Receipts for contract logging of timber owned by others	(NA)	(X)	1 642.5	970	(X)	780.2
24110 --	Logs, bolts, pulpwood, etc., n.s.k.	(NA)	(X)	4 213.0	(NA)	(X)	2 375.7
24110 00	Logs, bolts, pulpwood, etc., n.s.k., typically for establishments with 5 employees or more (see note)	(NA)	(X)	2 647.4	(NA)	(X)	1 457.3
24110 02	Logs, bolts, pulpwood, etc., n.s.k., typically for establishments with less than 5 employees (see note)	(NA)	(X)	1 565.6	(NA)	(X)	918.4
2421- --	SAWMILLS AND PLANING MILLS, GENERAL						
	Total	(NA)	(X)	16 774.8	(NA)	(X)	9 966.2
24211 --	Hardwood lumber, rough and dressed, except siding	(NA)	(X)	1 952.1	(NA)	(X)	1 053.5
24211 61	Hardwood rough lumber: Beech mil bd ft.....	(NA)	(S)	38.7			
24211 63	Oak	(NA)		*7 268.1 910.9	799	(S)	835.1
24211 65	Other hardwoods	(NA)	**2	080.7 700.4			
24211 75	Hardwood dressed lumber (including ceiling, framing, and shiplapped lumber):	(NA)	(S)	25.3			
24211 77	Edge worked (tongued, grooved, rebated, etc.) mil bd ft.....	(NA)		*183.5 87.1	122	(S)	122.2
24211 00	Not edge worked	(NA)	(X)	189.7	(NA)	(X)	96.2

See footnotes at end of table.

Table 2. Product and Product Classes—Quantity and Value of Shipments by All Producers: 1987 and 1982—Con.

[Includes quantity and value of products of this industry produced by (1) establishments classified in this industry (primary) and (2) establishments classified in other industries (secondary). Transfers of products of this industry from one establishment of a company to another establishment of the same company (interplant transfers) are also included. For further explanation, see Value of Shipments in appendix. For meaning of abbreviations and symbols, see introductory text.]

1987 product code	Product	1987			1982		
		Number of companies with shipments of \$100,000 or more	Product shipments ¹		Number of companies with shipments of \$100,000 or more	Product shipments ¹	
			Quantity ²	Value (million dollars)		Quantity ²	Value (million dollars)
2421--	SAWMILLS AND PLANING MILLS, GENERAL— Con.						
24212 --	Softwood lumber, rough and dressed, except siding	(NA)	(X)	9 767.1	(NA)	(X)	5 202.5
	Softwood rough lumber:						
24212 12	Boards, lumber less than 2 inches in nominal thickness	(NA)	*2 567.3	769.6	253	*1 605.1	425.2
24212 13	Two inch lumber, 2 inches in nominal thickness only	(NA)	*5 290.2	1 290.5	237	*3 279.1	635.5
24212 15	Lumber and timbers, more than 2 inches in nominal thickness	(NA)	*2 255.5	661.1	180	*1 670.8	409.7
	Softwood dressed lumber, including ceiling, framing, matched, and shiplapped lumber:						
24212 31	Edge worked (tongued, grooved, rebated, etc.)	(NA)	*706.8	243.8			
	Not edge worked:						
24212 33	Boards, lumber less than 2 inches in nominal thickness	(NA)	5 351.4	1 899.5	(NA)	*15 932.7	3 464.8
24212 35	Two inch lumber, 2 inches in nominal thickness only	(NA)	15 124.6	3 560.6			
24212 37	Lumber and timbers more than 2 inches in nominal thickness	(NA)	1 790.5	510.1			
24212 00	Softwood lumber, rough and dressed, except siding, n.s.k.	(NA)	(X)	831.9	(NA)	(X)	267.4
24215 --	Wood chips, except field chips	(NA)	(X)	1 707.4	(NA)	(X)	1 687.6
	Softwood:						
24215 16	Short tons	(NA)	*35 977.2	884.5	(*)	(*)	(*)
24215 18	Standard units (one standard unit, 200 cu ft of gravity packed chips, one standard cord)	(NA)	10 435.8	421.2	(*)	(*)	(*)
	Hardwood:						
24215 22	Short tons	(NA)	**11 028.1	242.3	*289	*26 370.3	*791.5
24215 24	Standard units (one standard unit, 200 cu ft of gravity packed chips, one standard cord)	(NA)	**1 621.4	60.6	*251	*14 351.3	*787.8
24215 00	Wood chips, except field chips, n.s.k.	(NA)	(X)	98.8	(NA)	(X)	108.3
24217 --	Softwood cut stock	(NA)	(X)	666.7	(NA)	(X)	259.9
24217 11	Furniture cut stock	(NA)	**118.2	76.6	38	**172.5	73.3
24217 51	Industrial cut stock	(NA)	*716.8	541.5	65	*318.4	166.8
24217 00	Softwood cut stock, n.s.k.	(NA)	(X)	48.6	(NA)	(X)	19.8
24218 --	Softwood flooring, siding, and other general sawmill and planing mill products	(NA)	(X)	281.8	(NA)	(X)	141.1
24218 11	Softwood flooring	(NA)	**43.9	19.3	9	(S)	5.1
24218 13	Woodsiding (weatherboards or clapboards), including drilled or treated, except treated with permanent wood preservatives	(NA)	(S)	43.0	16	60.7	31.7
24218 17	Railway crossties and mine ties (untreated)	(NA)	(S)	48.9	41	(S)	19.2
24218 23	Wood lath	(NA)	(X)	7.2	6	(X)	3.2
24218 25	Wood fence pickets, palings, and rails unassembled into fence sections	(NA)	(X)	28.0	34	(X)	20.4
24218 96	Other planing mill and sawmill products	(NA)	(X)	115.0	40	(X)	44.4
24218 00	Softwood flooring, siding, and other general sawmill and planing mill products, n.s.k.	(NA)	(X)	20.4	(NA)	(X)	17.1
24219 --	Receipts from contract or custom sawing, kiln drying, planing, etc., of lumber or logs owned by others	(NA)	(X)	171.2	(NA)	(X)	77.2
24219 11	Receipts for contract or custom sawing of logs owned by others	(NA)	(S)	27.4	37	(S)	19.1
24219 51	Receipts for contract kiln drying, planing, resawing, or other manufacturing of lumber owned by others	(NA)	(S)	138.4	83	(S)	53.8
24219 00	Contract or custom work on logs or lumber owned by others, n.s.k.	(NA)	(X)	5.4	(NA)	(X)	4.3
24210 --	Sawmills and planing mills, general, n.s.k.	(NA)	(X)	2 228.5	(NA)	(X)	1 544.4
24210 00	Sawmills and planing mills, general, n.s.k., typically for establishments with 5 employees or more (see note)	(NA)	(X)	1 872.8	(NA)	(X)	1 113.4
24210 02	Sawmills and planing mills, general, n.s.k., typically for establishments with less than 5 employees (see note)	(NA)	(X)	355.7	(NA)	(X)	431.0
2426--	HARDWOOD DIMENSION AND FLOORING						
	Total	(NA)	(X)	1 637.8	(NA)	(X)	872.5
24261 --	Hardwood flooring	(NA)	(X)	478.9	(NA)	(X)	187.9
24261 11	Oak flooring (3/4 inch, 1/2 inch, 3/8 inch T and G and EM, and 5/16 inch square edge strip)	(NA)	*182.8	189.5	21	87.7	53.3
24261 21	Oak parquetry	(NA)	48.4	81.8	16	*60.4	68.7
24261 23	Other oak flooring, including plank, block, and specialty	(NA)	78.8	131.0	8	(S)	17.8
24261 31	Maple, including strip, block, parquetry	(NA)	21.3	17.0			
24261 41	Glued laminated truck trailer flooring and railroad car decking	(NA)	**24.9	42.4	12	*26.9	40.2
24261 98	Other hardwoods	(NA)	(X)	15.1	4	(S)	2.4
24261 00	Hardwood flooring, n.s.k.	(NA)	(X)	2.1	(NA)	(X)	5.5
24262 --	Hardwood dimension stock, furniture parts, and vehicle stock	(NA)	(X)	737.1	(NA)	(X)	452.7
	Hardwood furniture dimension, including glued laminates, excluding dimension made from plywood:						
24262 24	Rough or surfaced, cut to size	(NA)	**218.9	207.8	(NA)	(S)	154.7
24262 51	Semifabricated	(NA)	*80.7	119.9	25	*41.5	50.1
24262 81	Completely fabricated ready for assembly, including furniture parts, except frames	(NA)	(S)	212.2	74	(S)	124.5

See footnotes at end of table.

Table 2. Product and Product Classes—Quantity and Value of Shipments by All Producers: 1987 and 1982—Con.

[Includes quantity and value of products of this industry produced by (1) establishments classified in this industry (primary) and (2) establishments classified in other industries (secondary). Transfers of products of this industry from one establishment of a company to another establishment of the same company (interplant transfers) are also included. For further explanation, see Value of Shipments in appendix. For meaning of abbreviations and symbols, see introductory text]

1987 product code	Product	1987			1982		
		Number of companies with shipments of \$100,000 or more	Product shipments ¹		Number of companies with shipments of \$100,000 or more	Product shipments ¹	
			Quantity ²	Value (million dollars)		Quantity ²	Value (million dollars)
2426- --	HARDWOOD DIMENSION AND FLOORING—Con.						
24262 --	Hardwood dimension stock, furniture parts, and vehicle stock—Con.						
	Other industrial dimension stock (for handles, golf clubs, agricultural implements, railroad cars, vehicle parts, ladder parts, skis, gunstocks, brushes, textile machinery stock, and semifabricated industrial parts):						
24262 83	Rough industrial dimension stock	(NA)	(X)	38.4	38	(X)	32.0
24262 85	Semifabricated industrial dimension stock	(NA)	(X)	33.5	15	(X)	29.2
24262 86	Completely fabricated hardwood industrial dimension stock	(NA)	(X)	83.1	15	(S)	13.0
24262 87	Compression-modified or densified wood (whether or not impregnated with synthetic resin in blocks, plates, sheets, and strips)	(NA)	(X)	1.9	4	(X)	13.9
24262 00	Hardwood dimension stock, furniture parts, and vehicle stock, n.s.k.	(NA)	(X)	40.3	(NA)	(X)	35.2
24266 --	Wood furniture frames for household furniture	(NA)	(X)	204.7			
24266 11	Wood furniture frames for household furniture: For seating	(NA)	(S)	160.6	118	(S)	130.8
24266 13	Other	(NA)	(S)	36.6			
24266 00	Wood furniture frames for household furniture, n.s.k.	(NA)	(X)	7.5			
24260 --	Hardwood dimension and flooring, n.s.k.	(NA)	(X)	217.1	(NA)	(X)	101.1
24260 00	Hardwood dimension and flooring, n.s.k., typically for establishments with 10 employees or more (see note)	(NA)	(X)	170.1	(NA)	(X)	71.5
24260 02	Hardwood dimension and flooring, n.s.k., typically for establishments with less than 10 employees (see note)	(NA)	(X)	47.0	(NA)	(X)	29.6
2429- --	SPECIAL PRODUCT SAWMILLS, N.E.C.						
	Total	(NA)	(X)	144.9	(NA)	(X)	149.9
24290 --	Shingles, shakes, cooperage stock, and excelsior: Red cedar shingles and shakes:						
24290 04	Shingles, including remanufactured shingles	(NA)	**750.9	34.6	27	(S)	19.2
24290 07	Handsplit shakes (handsplit and resawn, taper and straight split)	(NA)	**719.3	34.0	44	(S)	28.1
24290 09	Shingles and shakes, except red cedar	(NA)	(S)	2.2	5	203.2	7.8
24290 61	Tight and slack cooperage stock (staves and heading)	(NA)	(D)	(D)	23	(D)	(D)
24290 83	Excelsior products including wool, pads, and wrappers, etc.	(NA)	(X)	(D)	6	(D)	(D)
24290 00	Shingles, cooperage stock, and excelsior products, n.s.k., typically for establishments with 5 employees or more (see note)	(NA)	(X)	44.6	(NA)	(X)	34.3
24290 02	Shingles, cooperage stock, and excelsior products, n.s.k., typically for establishments with less than 5 employees (see note)	(NA)	(X)	11.1	(NA)	(X)	12.4

Note: In 1987 Census of Manufactures, data for establishments of small single unit companies with up to 20 employees were estimated from administrative-record data rather than data actually collected from respondents. Employment cutoffs used for administrative records for each industry and shipments figures are included in code ending with "002". In both 1987 and 1982 Censuses of Manufactures, products not completely identified on standard forms were coded in appropriate product class (five-digit) followed by "00" or to appropriate product group code (four-digit) followed by "000".

¹Data reported by all producers, not just those with shipments of \$100,000 or more.

²For some establishments, data have been estimated from central unit values which are based on quantity-value relationships of reported data. The following symbols are used when percentage of each quantity figure estimated in this manner equals or exceeds 10 percent of published figure: * 10 to 19 percent estimated; ** 20 to 29 percent estimated. If 30 percent or more is estimated, figure is replaced by (S).

³For 1982, product code 2411109 was reported under product code 2411127.

⁴For 1982, wood chips were reported by units of measure only; hardwood and softwood wood chips were reported together.

Table 3. Materials Consumed by Kind: 1987 and 1982

[Includes cost of materials consumed or put into production by establishments classified only in this industry. For further explanation, see Cost of Materials in appendix. For meaning of abbreviations and symbols, see introductory text]

1987 material code	Material	1987 delivered cost (million dollars)	1982 delivered cost (million dollars)
	INDUSTRY 2411, LOGGING		
	Materials, parts, containers, and supplies	5 166.1	3 817.3
081111	Cost of stumpage cut, excluding land value, for use as logs, lumber, veneer, wood, or other wood products	1 496.3	1 510.1
970099	All other materials and components, parts, containers, and supplies	555.3	374.4
971000	Materials, parts, containers, and supplies, n.s.k. ¹	3 114.5	1 932.8

See footnotes at end of table.

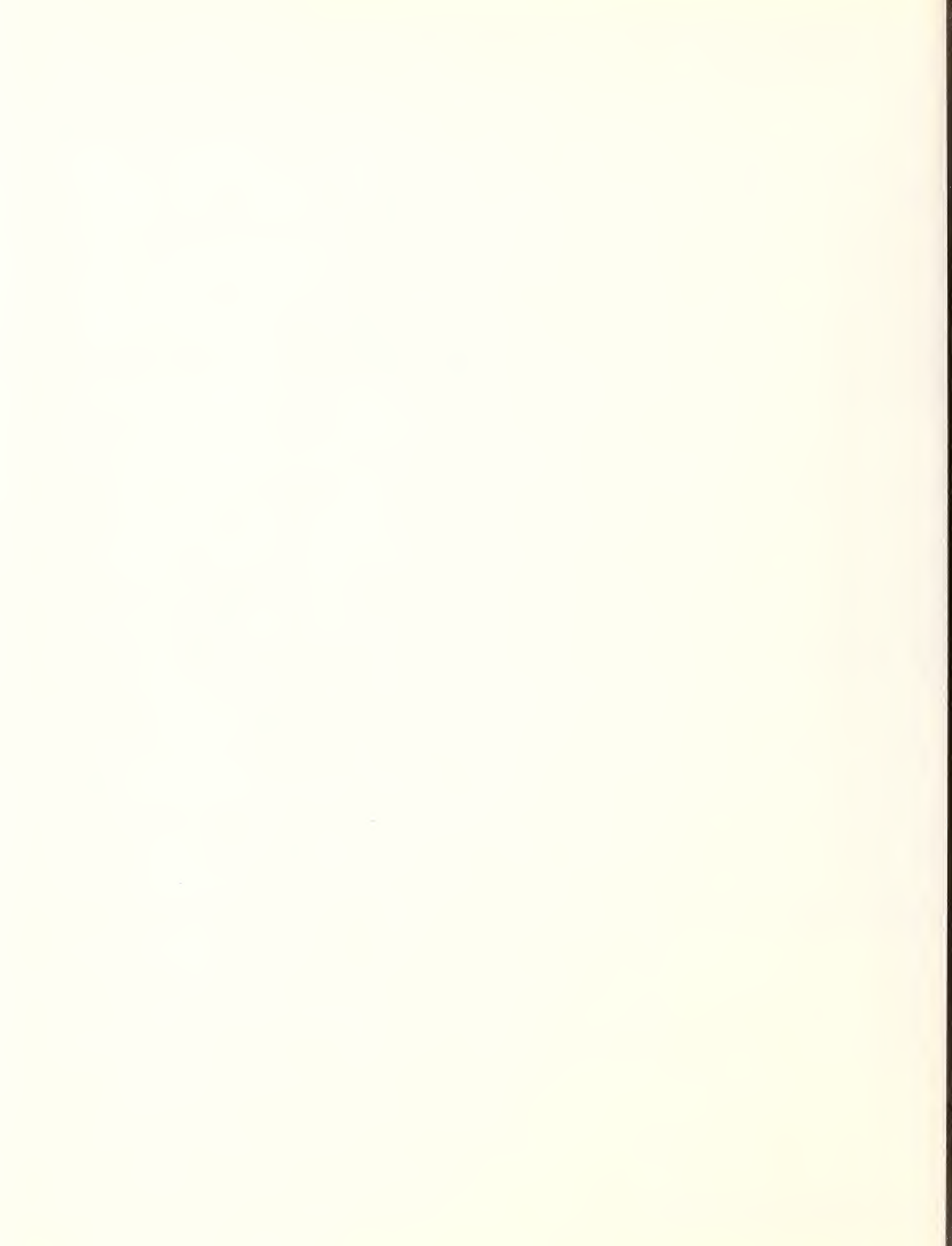
Table 3. Materials Consumed by Kind: 1987 and 1982—Con.

[Includes cost of materials consumed or put into production by establishments classified only in this industry. For further explanation, see Cost of Materials in appendix. For meaning of abbreviations and symbols, see introductory text]

1987 material code	Material	1987		1982	
		Quantity ²	Delivered cost (million dollars)	Quantity ²	Delivered cost (million dollars)
	INDUSTRY 2421, SAWMILLS AND PLANING MILLS, GENERAL				
	Materials, parts, and supplies -----	(X)	9 334.9	(X)	5 845.2
081111	Cost of stumpage cut, excluding land value, for use in the manufacture of logs, lumber, veneer, plywood, or other wood products-----	(X)	1 130.1	(X)	685.0
241111	Logs, bolts, and unsliced flitches:				
	Hardwood----- mil ft (log scale)-----	**3 512.9	696.4	**2 458.5	297.1
241112	Softwood ----- do-----	*18 354.9	3 593.7	14 191.2	2 520.5
242110	Rough lumber:				
	Hardwood----- mil bd ft-----	**606.1	217.2	(S)	82.6
242121	Softwood ----- do-----	*2 209.0	508.2	*1 381.9	293.0
242117	Dressed lumber:				
	Hardwood----- mil bd ft-----	(S)	75.0	(S)	2.8
242128	Softwood ----- do-----	*1 125.5	273.3	*388.7	91.8
289101	Glues and adhesives ----- mil lb-----	*114.6	31.3	(S)	10.1
970099	All other materials and components, parts, containers, and supplies-----	(X)	662.1	(X)	452.8
971000	Materials, parts, and supplies, n.s.k. ¹ -----	(X)	2 147.6	(X)	1 409.5
	INDUSTRY 2426, HARDWOOD DIMENSION AND FLOORING MILLS				
	Materials, parts, and supplies -----	(X)	785.7	(X)	417.8
081111	Cost of stumpage cut, excluding land value, for use in the manufacture of logs, lumber, veneer, plywood, or other wood products-----	(X)	9.6	(X)	3.6
241111	Logs, bolts, and unsliced flitches:				
	Hardwood----- mil ft (log scale)-----	*272.5	44.3	*185.7	34.6
241112	Softwood ----- do-----	(S) 5.5	5.5	*23.7	4.4
242110	Rough lumber:				
	Hardwood----- mil bd ft-----	**872.9	344.5	**611.0	173.1
242121	Softwood ----- do-----	**55.8	15.4	30.7	8.7
242117	Dressed lumber:				
	Hardwood----- mil bd ft-----	*154.5	47.0	**140.6	25.6
242128	Softwood ----- do-----	(S)	12.0	(S)	4.7
289101	Glues and adhesives ----- mil lb-----	(S)	7.7	(S)	3.9
970099	All other materials and components, parts, containers, and supplies-----	(X)	128.4	(X)	82.3
971000	Materials, parts, and supplies, n.s.k. ¹ -----	(X)	171.3	(X)	76.9
	INDUSTRY 2429, SPECIAL PRODUCT SAWMILLS, N.E.C.				
	Materials, parts, and supplies -----	(X)	77.0	(X)	77.9
081111	Cost of stumpage cut, excluding land value, for use in the manufacture of logs, lumber, veneer, plywood, or other wood products-----	(X)	1.0	(X)	11.2
241111	Logs, bolts, and unsliced flitches:				
	Hardwood----- mil ft (log scale)-----	(S)	7.7	*41.8	17.8
241112	Softwood ----- do-----	50.7	19.6	(S)	8.7
970099	All other materials and components, parts, containers, and supplies-----	(X)	14.1	(X)	7.5
971000	Materials, parts, and supplies, n.s.k. ¹ -----	(X)	34.6	(X)	32.7

¹Total cost of materials of establishments that did not report detailed materials data, including establishments that were not mailed a form.

²For some establishments, data have been estimated from central unit values which are based on quantity-value relationships of reported data. The following symbols are used when percentage of each quantity figure estimated in this manner equals or exceeds 10 percent of published figure: * 10 to 19 percent estimated; ** 20 to 29 percent estimated. If 30 percent or more is estimated, figure is replaced by (S).



APPENDIX

Scope and Coverage and Explanation of Terms

GENERAL

The 1987 Census of Manufactures is the 32nd census of manufacturing establishments conducted in the United States. For 1987, it was conducted as part of the economic censuses, which included the censuses of mineral industries, construction industries, retail and wholesale trades, service industries, selected transportation activities, and minority-owned and women-owned businesses, under authority of title 13 of the United States Code. Title 13 specifies that an economic census be conducted every 5 years to cover years ending in 2 and 7.

SCOPE AND COVERAGE

Establishment Basis of Reporting

The census of manufactures is conducted on an establishment basis. All manufacturing establishments with one paid employee or more at any time during the year are covered by the census of manufactures. Therefore, a company operating at more than one location is required to file a separate report for each location. This report excludes information for separately operated administrative offices, warehouses, garages, and other auxiliary units which service manufacturing establishments of the same company. Where these auxiliary operations are conducted at the same location as the manufacturing operation, they are usually included in the report for the operating manufacturing establishment.

Use of Administrative Records

From a universe of approximately 350,000 manufacturing establishments in the 1987 Census of Manufactures, approximately 150,000 small single-establishment companies were excused from filing reports. Selection of the small establishment nonmail cases was done on an industry-by-industry basis. A variable cutoff was used to determine those establishments for which administrative records were to be used in place of a census report. The cutoffs were selected so the administrative-record cases would account for approximately 3 percent or less of the value of shipments for the industry. These cutoffs were then adjusted so that all single-establishment companies with less than 5 employees were excluded from the mail canvass, while all establishments with more than 20 employees were included. Where establishments in the 5 to 20 employee size range were included in the mail canvass, an abbreviated census form was frequently used.

For these nonmail establishments, (and a small number of larger establishment whose reports were not received at the time the data were tabulated) data on employment, payroll, and receipts were obtained from administrative records of other government agencies rather than from census forms. The administrative-record information was then used in conjunction with industry averages to estimate the data for these establishments. The value of shipments and cost of materials were not distributed among specific products and materials but were included in the product and material "not specified by kind" (n.s.k.) categories.

EXPLANATION OF TERMS

Number of establishments and companies—A separate report was required for each manufacturing establishment (plant) with one employee or more. An establishment is defined as a single physical location where manufacturing is performed. A company, on the other hand, is defined as a business organization consisting of one establishment or more under common ownership or control.

All employees—Includes all full-time and part-time employees on the payrolls at any time during the year. Included are all persons on paid sick leave, paid holidays, and paid vacations. Officers of corporations are included as employees; proprietors and partners of unincorporated firms are excluded. The "all employees" number is the average number of production workers plus the number of other employees in mid-March. The number of production workers is the average of those for midmonth payroll periods of March, May, August, and November.

Production workers—Includes workers up through the working-supervisor level engaged in fabricating, processing, assembling, inspecting, receiving, packing, warehousing, shipping (but not delivering), maintenance, repair, janitorial, guard services, product development, auxiliary production for plant's own use (e.g., power-plant), recordkeeping, and other closely associated services. Truckdrivers delivering ready-mixed concrete are also included in production workers.

Other employees—Includes nonproduction personnel, including those engaged in the following activities: supervision above working-supervisor level, sales (including driver/salespersons), sales delivery (truckdrivers and helpers), advertising, credit collection, installation and

servicing of own product, clerical and routine office functions, executive, purchasing, finance, legal, personnel (including cafeteria, etc.), professional, and technical employees.

Payroll—Includes the gross earnings for the “employees” defined above, such as salaries, wages, commissions, dismissal pay, bonuses, vacation and sick leave pay, and compensation in kind, prior to such deductions as employees’ Social Security contributions, withholding taxes, group insurance, union dues, and savings bonds. Respondents were told that in reporting they could follow the definition of payrolls used for calculating the Federal withholding tax.

Production-worker hours—Covers hours worked or paid for at the plant, including actual overtime hours (not straight-time equivalent hours). It excludes hours paid for vacations, holidays, or sick leave when the employee was not at the plant.

Cost of materials—Refers to direct charges actually paid or payable for items consumed or put into production during the year, including freight charges and other direct charges incurred by the establishment in acquiring these materials. It includes the cost of materials or fuels consumed, regardless of whether they were purchased by the individual establishment from other companies, transferred to it from other establishments of the same company, or withdrawn from inventory during the year.

The important components of this cost item are (a) all raw materials, semifinished goods, parts, containers, scrap, and supplies put into production or used as operating supplies and for repair and maintenance during the year; (b) electric energy purchased; (c) fuels consumed for heat, power, or generating electricity; (d) work done by others on materials or parts furnished by manufacturing establishments (contract work); and (e) products bought and resold in the same condition.

Specific materials consumed (table 3)—In addition to the total cost of materials which every establishment was required to report, information was also collected for most manufacturing industries on the consumption of major materials used in manufacturing. These inquiries were restricted to those materials which were important parts of the cost of production in a particular industry and for which cost information was available from manufacturers’ records. Establishments consuming less than a specified amount (usually \$10,000) of a specific material were not requested to report consumption of that material separately. Also, the cost of materials for the small establishments for which administrative records were used was estimated as “not specified by kind” (n.s.k.).

Value of shipments and other receipts—Generally refers to received or receivable net selling values, f.o.b. plant (exclusive of freight and taxes), of all products shipped, both primary and secondary, as well as all

miscellaneous receipts such as receipts for contract work performed for others, installation and repair receipts, sale of scrap, and sale of products bought and resold without further processing. Included are all items made by or for the establishment from materials owned by it whether sold, transferred to other plants of the same company, or shipped on consignment. The net selling value of products made in one plant on a contract basis from materials owned by another was reported by the plant providing the materials.

In a few industries, the value of production or value of work completed is used instead of value of shipments. These industries are identified in the introduction and are footnoted in table 1.

In the case of multiunit companies, the manufacturer was requested to report the value of products transferred to other establishments of the same company at full economic or commercial value, that is, including not only the direct costs of production but also a reasonable proportion of “all other costs” (including company overhead and profit).

Shipments or production of individual products (table 2)—In the 1987 census, detailed shipment information was collected for approximately 11,000 individual products. These products are identified by a seven-digit code and are grouped into approximately 1,500 classes of products, which in turn are primary to 459 four-digit industries. Data at the five-digit product-class level have been collected each year as part of the annual survey of manufactures. Information at the seven-digit level, collected for many industries in the current industrial reports program, is not included in this table.

Value added by manufacture—This measure of manufacturing activity is derived by subtracting the cost of materials, supplies, containers, fuel, purchased electricity, and contract work from the value of shipments for products manufactured plus receipts for services rendered. The result of this calculation is then adjusted by the addition of value added by merchandising operations (that is, the difference between the sales value and cost of merchandise sold without further manufacturing, processing, or assembly) plus the net change in finished goods and work-in-process inventories between the beginning and end of the year.

For those industries where value of production is collected instead of value of shipments (see footnote in table 1), value added is adjusted only for the change in work-in-process inventories between the beginning and end of the year. For those industries where value of work done is collected, the value added does not include an adjustment for the change in finished goods or work-in-process inventories.

Value added avoids the duplication in the figure for value of shipments which results from the use of products of some establishments as materials by others. Value

added is considered to be the best value measure available for comparing the relative economic importance of manufacturing among industries and geographic areas.

Expenditures for new plant and equipment—Establishments in operation and any known plants under construction were asked to report their expenditures for (a) permanent additions and major alterations to manufacturing establishments and (b) new machinery and equipment used for replacement and additions to plant capacity if they are of the type for which depreciation accounts are ordinarily maintained.

These totals exclude expenditures for used plant and equipment, expenditures for land, and cost of maintenance and repairs charged as current operating expenses. Data for used plant and equipment will be published in the final industry bulletin.

End-of-year inventories—Comprised of (a) finished products; (b) work-in-process; and (c) materials, supplies, fuels, etc. Beginning in 1982, respondents were asked to report their inventories at (the lower of) cost or market prior to adjustment to LIFO cost. This is a change from prior years in which respondents were permitted to value their inventories using any generally accepted accounting method.

Therefore, 1982 through 1987 data for inventories are not strictly comparable to prior-year data.

Specialization and coverage ratios—An establishment is classified in a particular industry if its shipments of primary products of the industry exceed in value its shipments of the products of any other single industry. An establishments' shipments include those products assigned to an industry (primary products), those considered primary to other industries (secondary products), and receipts for miscellaneous activities (merchandising, contract work, resales, etc.). The following ratios have been developed to measure the relationship of primary product shipments to the data on shipments for the industry shown in table 1 and data on product shipments shown in table 2.

Specialization ratio—Represents the ratio of primary product shipments to total product shipments (primary and secondary, excluding miscellaneous receipts) for the establishments classified in the industry.

Coverage ratio—Represents the ratio of primary products shipped by the establishments classified in the industry to the total shipments of such products that are shipped by all manufacturing establishments, wherever classified.



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